CLAIMS:

1. A method of determining a physical or chemical parameter of wood pulp comprising:

a) applying excitation light at at least one predetermined wavelength to wood pulp, to produce fluorescence emission light from individual fibre particles of said pulp,

b) detecting fluorescence intensity of said fluorescence emission light, for each said predetermined wavelength, and

c) determining a physical or chemical parameter of individual fibre particles of the wood pulp from said fluorescence intensities.

2. A method according to claim 1 wherein at least a single wavelength of excitation light in the range 5 ηm to 700 ηm is applied in step a) and a physical parameter is determined in step c).

3. A method according to claim 2 wherein said excitation light has a wavelength of 250 ηm to 600 ηm.

4. A method according to claim 3 wherein said wavelength is 360 ηm to 500 ηm.

5. A method according to claim 1 wherein step c) comprises determining fibre thickness in said wood pulp from the detected fluorescence intensity in b).

6. A method according to claim 1 wherein step c) comprises determining fibre cross-sectional area in said wood pulp from area under a

fluorescence intensity profile derived from the detected fluorescence intensity in b).

7. A method according to claim 1 wherein said step c) comprises determining fibre coarseness in said wood pulp from the detected fluorescence intensity per unit length in step b).

8. A method according to claim 1 wherein step a) comprises applying excitation light at at least one predetermined wavelength band, and step c) comprises determining a chemical parameter of individual fibre particles of the wood pulp from a ratio of fluorescence intensities detected in step b).

9. A method according to claim 8 wherein said chemical parameter is lignin content.

10. A method according to claim 8 wherein said chemical parameter is Kappa number.

11. A method according to claim 8 wherein said ratio is of fluorescence intensity generated from long versus short wavelength barrier / longpass / bandpass filter, or said ratio is derived from long versus short wavelength intensities in the fluorescence spectra.

12. An apparatus for determining a physical or chemical parameter of wood pulp comprising:

i) means to apply excitation light at at least one predetermined wavelength to wood pulp, to produce fluorescence emission light from individual fibre particles of the wood pulp,

ii) detection means for detecting fluorescence intensity of the fluorescence emission light for each predetermined wavelength, and

iii) means for determining a physical or chemical parameter of individual fibre particles of the wood pulp from the fluorescence intensities.

13. An apparatus according to claim 12 wherein said means i) applies excitation light at at least a single wavelength in the range 5η to 700 ηm, and means ii) determines a physical parameter of individual fibre particles of the wood pulp.

14. An apparatus according to claim 13 wherein said wavelength is 250 ηm to 600 ηm.

15. An apparatus according to claim 13 wherein said wavelength is 360 ηm to 500 ηm.

16. An apparatus according to claim 12 wherein said detection means iii) comprises long and short wavelength filters and means for developing a ratio of the fluorescence intensities generated by the long and short wavelength filters, or by the intensities at long and short wavelength regions in the fluorescence spectra, as a measure of lignin content or Kappa number.